CLAIMS

1. An optical switching matrix as an intermediate element in an optical data transmission link of a WDM ring transmission system for variable input and output coupling of a plurality of optical channels, comprising:

a first side having N input channels for incorporation into the optical WDM data transmission link;

a second side having N output channels for incorporation into the optical WDM data transmission link;

a third side having a plurality of channels coupled to the optical data transmission link, the coupling being at least one of an input coupling and an output coupling;

an input matrix for the N input channels provided on the first side;

an output matrix for the N output channels provided on the second side; and

a variably switchable network, wherein the first and second sides are connected to each other and to the input and output channels of the third side via the variably switchable network.

2. An optical switching matrix as an intermediate element in an optical data transmission link of a WDM ring transmission system as claimed in claim 1, further comprising:

an additional output matrix for an additional N output channels provided on the first side; and

an additional input matrix for an additional N input channels provided on the second side.

3. An optical switching matrix as an intermediate element in an optical data transmission link of a WDM ring transmission system as claimed in claim 1, further comprising:

a distributor as part of the variably switchable network, the distributor including a distributor input and at least two distributor outputs on at least one input channel downstream of at least one of the input matrix of the first side and the

additional input matrix of the second side, at least one of the distributor outputs leading to an output channel on a respectively opposite side, and at another of the distributor outputs leading to an output on the third side.

4. An optical switching matrix as an intermediate element in an optical data transmission link of a WDM ring transmission system as claimed in claim 1, further comprising:

a controllable switch as part of the variably switchable network, the controllable switch including at least two switch inputs and a switch output and at least one output channel upstream of at least one of the output matrix of the first side and the additional output matrix of the second side, at least one of the switch inputs leading to an input channel on a respectively opposite side, and at least one of the switch inputs leading to an input channel on the third side.

5. An optical switching matrix as an intermediate element in an optical data transmission link of a WDM ring transmission system as claimed in claim 1, further comprising:

a distributor as part of the variably switchable network, the distributor including a distributor input and at least two distributor outputs on the third side and on at least one input channel, at least one of the distributor outputs leading to an output channel on one of the first and second sides.

6. An optical switching matrix as an intermediate element in an optical data transmission link of a WDM ring transmission system as claimed in claim 1, further comprising:

a switch as part of the variably switchable network, the switch including a switch output and at least two switch inputs on the third side and on at least one output channel, at least one of the switch inputs leading to an input channel on one of the first and second sides.

7. An optical switching matrix as an intermediate element in an optical data transmission link of a WDM ring transmission system as claimed in claim 1, wherein at least one of the input matrix and the output matrix is provided as a switches with a square structure.

8. An optical switching matrix as an intermediate element in an optical data transmission link of a WDM ring transmission system as claimed in claim 1, further comprising:

N output switches and N input distributors on the third side.

9. An optical switching matrix as an intermediate element in an optical data transmission link of a WDM ring transmission system as claimed in claim 1, wherein the variably switchable network includes a single-redundancy ring backup circuit.

10. An optical switching matrix as an intermediate element in an optical data transmission link of a WDM ring transmission system as claimed in claim 1, wherein the variably switchable network includes a two-fiber ring backup circuit with distributed redundancy.

11. An optical switching matrix as an intermediate element in an optical data transmission link of a WDM ring transmission system as claimed in claim 1, wherein the variably switchable network includes a four-fiber ring backup circuit with distributed redundancy.

12. An optical switching matrix as an intermediate element in an optical data transmission link of a WDM ring transmission system as claimed in claim 1, wherein functions of the variably switchable network with switches and distributors are combined in at least one ADP module, for each channel, in an overall ADP module having a total of N ADP modules.